SEEDS

References and Acronyms

for

Working Papers

Level of Service / Cost Estimation (LOS/CE) Team

April 24, 2002

1   Introduction

This set of references and list of acronyms accompanies the set of Working Papers prepared by the SEEDS (Strategic Evolution of Earth Science Enterprise Data Systems) Levels of Service (LOS) / Cost Estimation (LOS/CE) study.

The set of working papers that together describe the LOS/CE Study includes the following:

Working Paper 1 - Project Overview and Technical Approach

The first working paper of the set provides an overview of the SEEDS Levels of Service / Cost Estimation Study, a roadmap to the full set of working papers, and a discussion of the technical approach to the requirements analysis and cost estimation phases of the study.

Working Paper 2 - Cost Estimation by Analogy Model
This working paper describes the cost estimation by analogy model that is being developed for this study. This paper will evolve extensively as the work progresses. Its initial focus is on a conceptual description of the model and how it and the cost estimating relationships it uses are expected to develop, scenarios showing how the model will be used, goals and plans for the model prototype, etc.

Working Paper 3 - Data Service Provider Reference Model - Functional Areas
This working paper describes the concepts involved in the Data Service Provider Reference Model, and describes the functional areas / areas of cost comprising the model. The paper reflects the results of the February, 2002, SEEDS Community Workshop, including drawing on material from white papers submitted by workshop attendees.

Working Paper 4 - Data Service Provider Reference Model - Model Parameters
This working paper contains definitions of the parameters that are inputs, outputs, and intermediate parameters used by the cost estimation by analogy model, including those that are elements of the comparables database. It constitutes a data dictionary for the model and database.

Working Paper 5 - Data Service Provider Reference Model - Requirements / Levels of Service
This working paper describes a general set of requirements and levels of service mapped to the functional areas of the Data Service Provider Reference Model. This paper will be maintained and updated as needed through the life of the project. This paper reflects the results of the February, 2002, Community Workshop, draws on white papers submitted by workshop attendees, and includes a new user-oriented view of levels of service.

Working Paper 6 - ESE Logical Data Service Provider Types
This working paper describes an open set of logical ESE data service provider types, each essentially a group of functions clustered around a different type of ESE role or mission as an organizing principle. The paper describes how these logical or conceptual provider types relate to physical entities, e.g. real-world data centers that, given their responsibilities within the ESE program, might embody the functionality of several different provider types. The paper describes how the provider types would be used in ESE architecture studies. The paper reflects the results of the February, 2002, Community Workshop, and draws on white papers submitted by workshop attendees.

Working Paper 7 - Comparables Database
This working paper provides an overview of the Comparables Database, comprising information obtained from existing ESE data activities and other data centers. It includes the database schema or template. It reports on which data centers have provided information to be added to the database, allowing a reader to track the development of the database as the information collection effort proceeds and the paper is updated. The paper does not contain the actual information provided by the sites.

As the initial versions of these working papers are completed they will be made available on the SEEDS website for review and comment, and will be updated in response to feedback and as work on the project progresses.

References

These references were used by one or more of the working papers in the LOS/CE Team set.

1. "NewDISS: A 6-to-10-year Approach to Data Systems and Services for NASA's Earth Science Enterprise - Draft Version 1.0", October 2000.

2. "NewDISS Level 0 Requirements", September 2001, Vanessa Griffin ESDIS/SOO and SEEDS Formulation Team.

3. "ESDIS Project Level 2 Requirements: Volume 5: EOSDIS Version 0, Revision B", March 2000, GSFC.

4. "ESDIS Data Center Best Practices and Benchmark Report", September 2001, SGT Inc.

5. "Ensuring the Climate Record from the NPP and NPOESS Meteorological Satellites", NRC Committee on Earth Studies (CES), September 2000.

6. "Global Change Science Requirements for Long-Term Archiving", NOAA-NASA and USGCRP Program Office, March 1999.

7. "Survey of Cost Estimation Tools, Final Report" David Torrealba, SGT, March, 2002.

8. "Earth Science Enterprise Applications Strategy for 2002-2012", NASA/ESE, January 2002.

9. "User Oriented Services Model", Steve Kempler, Submitted SEEDS Workshop White Paper, February 2002.

10. "SEDAC Inputs to SEEDS Levels of Service Workshop", Bob Chen, Chris Lenhardt, Submitted SEEDS Workshop White Paper, February 2002.

11. "Operational User Support (OUS) Manifesto", Hank Wolf, Submitted SEEDS Workshop White Paper, February 2002.

12. "Distributed Data Access, Analysis, and Standards for Earth Science Data", Menas Kafatos, Submitted SEEDS Workshop White Paper, February 2002.

13. "Outreach, Education Training", Brenda Jones, Submitted SEEDS Workshop White Paper, February 2002.

14. "Data Management and Services for Global Change Research", Don Collins, Submitted SEEDS Workshop White Paper, February 2002.

15. "SEEDS: Some Thoughts on Data Management for NASA Missions", Victor Zlotnicki, Submitted SEEDS Workshop White Paper, February 2002.

16. "Data Services", Bruce Barkstrom, Submitted SEEDS Workshop White Paper, February 2002.

17. "SEEDS White Paper", Tom Kalvelage, Submitted SEEDS Workshop White Paper, February 2002.

18. "The Grid: A New Structure for 21st Century Science", Ian Foster, Physics Today, February 2002

Others TBD.

Acronym List

AC - Applications Center (a logical ESE DSP type)

AO - Announcement of Opportunity

BBDC - Backbone Data Center (a logical ESE DSP type)

CD-ROM - Compact Disk - Read Only Memory

CES - Committee on Earth Studies (National Research Council)

CER - Cost Estimating Relationship

COCOMO - Constructive Cost Model

COTS - Commercial Off-the-Shelf (refers to hardware and software available commercially)

DAAC - Distributed Active Archive Centers (EOSDIS data management / user service elements)

DIF - Directory Interchange Format (used by the GCMD)

DSP - Data Service Provider

DVD - Digital Video (Versatile) Disk

ECS - EOSDIS Core System

EDC - EROS (Earth Resources Observation System) Data Center (USGS, hosts a NASA DAAC)

EDG - EOS Data Gateway

EOS - Earth Observing System

EOSDIS - Earth Observing System Data and Information System

ESDIS - Earth Science Data and Information System (the EOS ground system project at GSFC)

ESE - Earth Science Enterprise (NASA's Earth Science program)

ESIPS - Earth Science Information Partners

FAQ - Frequently Asked Questions

FGDC - Federal Geographic Data Committee

FTE - Full Time Equivalent

FTP - File Transfer Protocol

GCMD - Global Change Master Directory

GIS - Geographic Information System

GSFC - Goddard Space Flight Center (NASA lead center for EOSDIS and SEEDS)

IC - Information Center (a logical ESE DSP type)

LaRC - Langley Research Center (NASA center participating in EOSDIS and SEEDS)

LCDM - Life Cycle Data Management plan

LOS - Level of Service

LOS/CE - Level of Service / Cost Estimation (title of this SEEDS study)

LTA - Long Term Archive

LTAC - Long Term Archive Center (a logical ESE DSP type)

MDC - Mission Data Center (a logical ESE DSP type)

MODAPS - MODIS Adaptive Processing System

MODIS - Moderate Resolution Imaging Spectroradiometer (flown aboard Terra and Aqua)

NASA - National Aeronautics and Space Administration

NCAR - National Center for Atmospheric Research

NewDISS - New Data and Information Systems and Services (now replaced by SEEDS)

NOAA - National Oceanic and Atmospheric Administration

NPOESS - National Polar-orbiting Operational Environmental Satellite System

NPP - NPOESS Preparatory Project

NSIDC - National Snow and Ice Data Center (hosts a NASA DAAC)

PI - Principal Investigator

QA - Quality Assurance

RESAC - Regional Earth Science Applications Center

SCF - Science Computing Facility (operated by EOS PI's)

SDC - Science Data Center (a logical ESE DSP type)

SEDAC - Socio-Economic Data and Applications Center (a DAAC)

SEEDS - Strategic Evolution of ESE Data Systems (new term replacing NewDISS)

SIPS - Science Investigator-led Processing System

SLOC - Source Lines of Code

SGT - Stinger Ghaffarian Technologies (Incorporated), LOS/CE study contractor

SMC - Systematic Measurements Center (a logical ESE DSP type)

SOO - Science Operations Office, within the ESDIS Project

TB - Terabytes

TBD - To be Determined

USGCRP - US Global Change Research Program

USGS - US Geological Survey